



ATYPICAL PRESENTATION OF ANASARCA IN A NON-CARDIAC PATIENT

Alexander Paiva, DO and Manuel Estrada, MD

University of the Incarnate Word School of Osteopathic Medicine
Texas Institute for Graduate Medical Education and Research
San Antonio, Texas



INTRODUCTION

Anasarca is generalized edema affecting multiple parts of the body. Edema is produced by several mechanisms that alter capillary hemodynamics leading to fluid moving from the vasculature into the interstitial tissues. The most common causes of generalized edema include heart failure, cirrhosis, nephrotic syndrome, premenstrual edema, or pregnancy. Less common causes of edema can be related to medications or rare incidences of idiopathic edema. We present a case of a patient who had anasarca with an unknown history of heart, liver, or kidney diseases.

CASE PRESENTATION

History of Present Illness:

A 50-year-old male was admitted to the hospital with worsening leg edema, scrotal swelling, and dyspnea on exertion.

- Symptoms started a couple of weeks prior to presentation and progressively worsened from just leg edema to more diffuse body swelling and now shortness of breath
- Two previous ED visits and was given furosemide each visit with minimal relief
- Denied chest pain, palpitations, radiating body pain, difficulty with urination, abdominal pain

Medical and Surgical History

- Diagnosed with CHF at recent emergency visit*
- No other medical or surgical history

Social History:

Never smoker, denied alcohol use, remote history of cocaine use

Medications:

Furosemide 20mg, increased from 10mg two weeks prior

Pertinent Physical Exam Findings:

VS: T 36.8 HR 107 RR 20 BP 167/89 SpO2 97% RA

Gen: AOX3, afebrile, overweight male

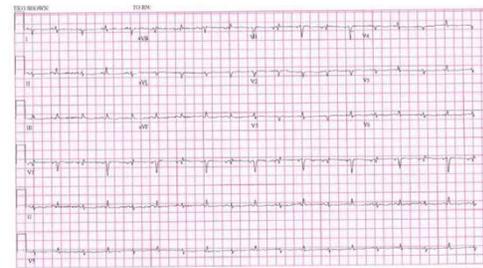
CV: Tachycardic, distant muffled heart sounds, Bilateral 2+ Pitting edema in lower extremities both above and below knees, No JVD present

Lungs: Bibasilar lung crackles, mild respiratory distress on RA
Abd: Soft, Slightly Distended, negative fluid wave, no masses, no hepatosplenomegaly

GU: Scrotal and penile swelling, no masses, still had transillumination present

Relevant Labs: (Blue = Low, Red = High)

8.2	11.5	298	137	103	12	101
	37.0		3.7	32	0.72	(eGFR >60)
TP	AST		Beta Globulins: 1.5			
8.3	35		M-Spike: 0.7			
Alb	ALT		Free Kappa LC: 41.3			
3.2	43		Free Lambda LC: 28.4			
Glob	ALP		UA Protein: Negative			
5.1	170		NT-BNP: 98			
T. Bili	0.8		Trop I HS: 9			

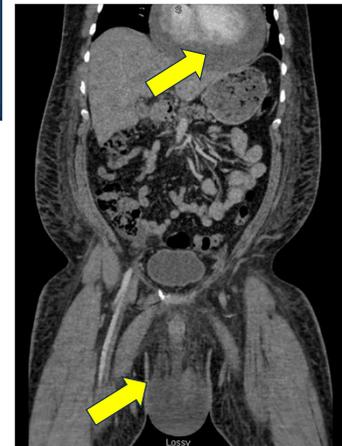
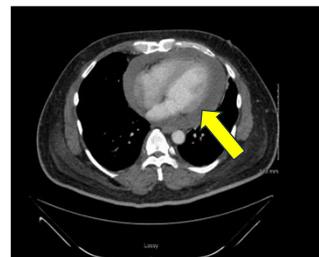


ED ECG interpretation: Sinus tachycardia with HR 108 and QTc 463, diffuse low-voltage QRS complexes, with electrical alternans. No ST elevation present.



Image Below:

- CT Abdomen Pelvis Coronal View: Pericardial effusion, with diffuse anasarca including marked scrotal edema and trace amount of ascites



Clockwise from Top Left:

- Chest XR AP View: Cardiomegaly with moderate pulmonary vascular congestion and possible pulmonary edema; no pleural effusion noted
- Transthoracic Echocardiogram: Large pericardial effusion without RA or RV collapse, swinging heart, Normal LA and LV size and function, EF 55-60%
- CT Chest Axial View: 2cm pericardial effusion in diameter

DIAGNOSTIC TESTING

DISCUSSION

- Pericardiocentesis performed with 1.6 L of bloody fluid drained; cytology – no malignant cells
- Aggressive diuresis with IV furosemide removed > 25 liters
- Bone marrow biopsy - monoclonal gammopathy of undetermined significance (MGUS) and no evidence of multiple myeloma on FISH analysis or cytology.
- Anasarca due to increased intravascular oncotic pressure with hypoalbuminemia and hyperglobulinemia with altered albumin-globulin ratio.
- MGUS has been reported to be associated with anasarca, as in the case of idiopathic systemic capillary leak syndrome (SCLS).
- SCLS is a diagnosis of exclusion and consists of hemoconcentration, hypotension, hypoalbuminemia, generalized edema, and intravascular hypovolemia. This case patient had low hematocrit levels and was hypertensive, so this did not apply
- This case was interesting because it was an atypical presentation of anasarca given the lack of evidence of other common causes, and an opportunity to learn more about the clinical manifestations monoclonal gammopathies and etiologies of edema.

CONCLUSIONS

- This case demonstrated that while common things are common to explain the etiologies of symptoms like edema and dyspnea, sometimes there are exceptions to clinical presentations and physicians should not fall victim to anchoring or availability biases.
- It also serves as a reminder to the internist to keep the differential diagnosis broad and to examine all of the pertinent data and conduct a thorough history and evaluation before making a final diagnosis.

REFERENCES

1. Smith CC. Clinical manifestations and evaluation of edema in adults. UpToDate. Published March 4, 2021. Accessed May 20, 2023
2. Sterns RH, Kunins L. Pathophysiology and etiology of edema in adults. UpToDate. Published March 8, 2022. Accessed May 20, 2023
3. Brater DC, Elison, DH. Causes and treatment of refractory edema in adults. UpToDate. Published July 5, 2022. Accessed May 20, 2023
4. Lent-Schochet D, Jialal I. Physiology, Edema. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. <https://www.ncbi.nlm.nih.gov/books/NBK537065/>. Published May 8, 2022; Accessed May 22, 2023
5. Laubach, JP. Diagnosis of Monoclonal Gammopathy of undetermined significance. Published September 8, 2022; Accessed May 22, 2023
6. Claveau, JS, Wetter, DA, & Kumar, S. Cutaneous manifestations of monoclonal gammopathy. Blood Cancer J 12, 58 (2022). <https://doi.org/10.1038/s41408-022-00661-1>
7. Gonsalves WI, Rajkumar SV. Monoclonal Gammopathy of Undetermined Significance. Annals of Internal Medicine. 2022;175(12):1TC177-1TC192. <https://doi.org/10.7326/aitc202212200>